

# RECOGNITION OF *LECHEA PULCHELLA* VAR. *RAMOSISSIMA* (CISTACEAE)

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## ABSTRACT

A new combination is made: ***Lechea pulchella*** Raf. var. ***ramosissima*** (Hodgdon) Sorrie & Weakley.

## RESUMEN

Se hace la nueva combinación: ***Lechea pulchella*** Raf. var. ***ramosissima*** (Hodgdon) Sorrie & Weakley.

Hodgdon (1938) revised the genus *Lechea* and recognized three varieties within *L. leggettii* Britton & Hollick. The nominate variety (named var. *typica* Hodgdon), ranges from eastern Massachusetts to northeastern Ohio and south to northern and western Virginia. Variety *moniliformis* (E.P. Bicknell) Hodgdon occurs near the coast from southeastern Massachusetts to southern New Jersey; localized disjunct populations occur within old shorelines of the Great Lakes in Illinois, Indiana, Michigan, Ohio, and Ontario. Variety *ramosissima* Hodgdon occurs from southeastern Virginia to central Florida and west to eastern Texas. In a revision of *Lechea* in the southeastern United States, Wilbur and Daoud (1961) accepted Hodgdon's var. *ramosissima*, but without assessing its distinctiveness.

Wilbur (1966) argued that Rafinesque's older names should be used for many of the names used by Hodgdon and others. Thus, *L. leggettii* became a synonym of *L. pulchella* Raf. However, in this paper Wilbur declined to recognize varieties, stating that "...I am not convinced that these tendencies represent biological varieties or subspecies." In a study of *Lechea* in New Jersey, Barringer (2004) did not recognize varieties and did not mention the southern taxon *ramosissima*.

## MATERIALS AND METHODS

We examined over 150 specimens from NCU, VPI, and WILLI. Specimens represented a broad geographic range from Massachusetts to Florida and Louisiana; however, we paid special attention to the potential zone of overlap of var. *pulchella* and var. *ramosissima* in the mid-Atlantic states. Specimens represented 13 counties in Virginia, 28 in North Carolina, and 3 in Maryland. We assessed Hodgdon's (1938) key characters of seed number, seed shape, density of capsules, panicle shape, and panicle branching. We also assessed plant height.

## RESULTS

We found that these characters, if used in combination, satisfactorily separated a high percentage of specimens with mature fruit. The most useful characters were seed number, seed shape, density of capsules, and plant height. Table 1 summarizes these characters. Density of capsules refers to the arrangement of capsules on the ultimate branches: in var. *pulchella* they vary from a tight cluster (or glomerule) to a crowded row of capsules that actually or nearly touch one another; in var. *ramosissima* the capsules vary from a loosely arranged row (capsules separated by one to a few mm) to a row of capsules that may touch one another. Panicle shape and branching, as defined by Hodgdon (1938), were difficult to apply effectively, but we include them here for completeness.

We experienced little difficulty in assigning specimens to var. *pulchella* or to var. *ramosissima*. All specimens from North Carolina and southward exhibited characters of var. *ramosissima*, with no characters of var.

TABLE 1. Morphological characters used to distinguish varieties in *Lechea pulchella*.

	<i>var. pulchella</i>	<i>var. ramosissima</i>
seed number	3(–4)	2(–3)
seed shape	relatively narrow and 3-sided, like sections of an orange	broad and compressed, or obscurely 3-sided
density of capsules	clustered at branch tip, or in a dense row	in a sparse row, sometimes in a dense row
plant height	25–55 cm	35–80 cm
panicle shape and branching	ovoid to subcylindric; principle branches subequal, relatively short	subcylindric to subglobose; principle branches diminishing upward, relatively long

*pulchella*. Similarly, specimens from Maryland and northward exhibited characters only of *var. pulchella* (or of *var. moniliformis*). Virginia specimens from Caroline County (Wieboldt 9538 VPI) and City of Suffolk, (Fleming 11235 WILLI) had three seeds per capsule and seeds variously shaped, but had capsule density and plant height characters typical of *var. ramosissima*. Virginia specimens from Fairfax County (Hunnewell 6506 VPI) and Prince William County (Townsend 3532 VPI) had three seeds per capsule and seeds variously shaped, but had capsule density and plant height typical of *var. pulchella*. These specimens apparently are examples of hybridization. Examination of additional specimens in the zone of overlap in eastern Virginia—and in adjacent Maryland and North Carolina—may reveal additional evidence of natural hybridization. However, since a small percentage of collections appear to exhibit intermediate characters, we believe that recognition of *var. ramosissima* is warranted, based on the concept of varieties as incompletely separated evolutionary entities with correlated morphological and ecogeographic differences. In this regard, we stress the importance of using several key characters when identifying varieties within *Lechea pulchella*, since there is some overlap in any given character.

While many species in the eastern United States exhibit little variation from north to south (*Liriodendron tulipifera* L.), others exhibit a clinal pattern (*Limonium carolinianum* (Walter) Britton). Still other species exhibit a more-or-less distinct shift of characters in the region of the Virginia-North Carolina boundary. *Kalmia angustifolia* L. and *K. carolina* Small, considered species by some and varieties by others, is an example.

***Lechea pulchella*** Raf. *var. ramosissima* (Hodgdon) Sorrie & Weakley, comb. nov. BASIONYM: *Lechea pulchella* Raf., New Fl. N. Amer. 1:91. 1836. *Lechea leggettii* Britton & Hollick *var. ramosissima* Hodgdon, Rhodora 40:119–123, pl. 491, fig. 3. 1938. TYPE: U.S.A. MISSISSIPPI. Jackson Co.: Ocean Springs, 29 Jul 1896, Pollard 1109 (HOLOTYPE: GH; ISOTYPES: F, NY, US).

*Lechea pulchella var. ramosissima* ranges on the coastal plain from southeastern Virginia (Accomack, Caroline, City of Suffolk, City of Virginia Beach, Greensville, and Northampton counties; specimens at NCU, VPI, WILLI) south to central Florida (reaching Hernando and Martin counties, Atlas of Florida Vascular Plants, www.plantatlas.usf.edu) and west to western Louisiana (Beauregard Parish, specimen at NCU) and eastern Texas (Orange County, Turner et al. 2003); disjunct in central Tennessee (Coffee County, Wilbur & Daoud 1961) and northeast Georgia (Rabun County, specimen at NCU). Habitats include dry to mesic pine-oak woods, pine savannas, pine flatwoods, borders of shrub-tree pocosins, moist powerlines, dry fields, roadsides, and railroad rights-of-way. In many of these habitats, fire is a recurring disturbance.

## REFERENCES

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